



## Users Survey

- Recommendation from CUC:

[14] The CUC members applaud the SDS group's effort to reach out to the community to provide software that is useful for Chandra analysis. Along these lines, the CUC suggests that the CXC poll current Chandra PIs to learn about their software usage patterns. Specifically questions like the following should be posed: (1) what CIAO analysis tools do you use; (2) what non-CIAO tools do you use; (3) are there Chandra specific tools that are missing; and (4) in what directions would you like to see CIAO develop.

- ⇒ Expanded to include more questions in 3 main areas:

1. CIAO Tools and Applications
2. CIAO Documentation
3. Software Platforms and Installation

- ⇒ Will be on line (i.e. easy to fill out)

- ⇒ Planned for beginning of January 2003

- ⇒ See handout for detailed questions



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## CIAO Documentation

### Highlights:

- Documentation Release on 4 September 2003
  - ⇒ Re-design of the CIAO web site and greater multi-browser compatibility
  - ⇒ Two new sets of documents have been added: "Analysis Guides" and "Why? Topics"
  - ⇒ New and Updated threads
  - ⇒ Re-organized and improved AHELP, FAQ, and DICTIONARY pages
  - ⇒ PDF version of each page available
- Ciao2.3 released 12 Nov 2003
  - ⇒ Including all documentation about CTI correction
- Improved Search Engine on CIAO pages



## Analysis Guides

- ⇒ Number of CIAO science threads greater than 100: great demand for a roadmap on how to apply them to the data.
- ⇒ Analysis Guides written for that purpose.
- ⇒ Each guide takes a certain instrument configuration (ACIS) or type of analysis (extended sources) and lists the relevant threads. Along with the listing is a brief explanation of the purpose of each task.
- ⇒ The goal is to help the user to complete the analysis without requiring that every thread be read.

Current Analysis Guides are:

- ▶ ACIS Data Preparation
- ▶ HRC Imaging
- ▶ Extended Sources



## Why? Topics

- ⇒ Meant as a second layer to the threads: provide supplemental information for the user that is interested in “digging deeper”.
- ⇒ Some of the topics highlight common pitfalls and subtleties in the CIAO software, others describe aspects of the Chandra Observatory and data obtained with it.
- ⇒ Also provide information on why certain science decisions are made, enabling the user to tailor the analysis to a particular dataset.
- ⇒ Currently the Why? topics are only accessible from the index but in the future they will be linked from within the threads.

Current Why? Topics are:

- ▶ The Aspect Solution & `pcad_asol1.fits` Files
- ▶ Dither
- ▶ ACIS CTI Correction
- ▶ Choosing an Energy Filter
- ▶ S-Lang as the CIAO Scripting Language



## New and Updated threads

- ⇒ Number of threads is now greater than 100 and we get several new requests for additions/improvements every months.
  
- ⇒ Several threads were added in the past 6 months and updates are always needed for a software release (ciao 2.3) or CALDB release (2.15, 2.17, 2.18).
  
- ⇒ Threads updated since June 2003:
  - ▶ Running acis\_process\_events on Level=2 Event Files
  - ▶ Rewrite of the three DETECT threads (cell, vtp, & wav)
  - ▶ Using the Output of Detect Tools
  - ▶ Extracting Extended Source Spectra and Responses (thread #100)
  - ▶ Coadding Spectra and Weighted Responses
  - ▶ Apply the HRC AMP\_SF Correction
  - ▶ Apply ACIS CTI thread
  - ▶ Calculate CC-mode Times of Arrival
  - ▶ Apply the ACISABS model to an ARF
  - ▶ Using the ACISABS model in Sherpa



## Plans for the future

- CIAO demos planned for the AAS in January 2003
- 5th CIAO Workshop planned for June 2003
- Major effort to organize wealth of information on CIAO pages to make it more accessible to user (see users survey).
- Infrastructure work on ahelp files and manuals to make them more easily updatable and maintainable
- Link relevant instrument/calibration information in POG on CIAO pages
- Expand and improve SLANG Documentation for beginners and experienced users
- Expand Pipeline and Data Products Documentation on CIAO pages



## A Partial List of Threads, Analysis Guides, Why? Topic in our TO-DO List

### Threads

- \* Various ways to calculate fluxes for Chandra sources
- \* Multi-OBs (what they are, how to use them)
- \* Areas/subspace querying
- \* Extracting transfer streak data
- \* Using parameter tools
- \* Subtracting a point source given a PSF image
- \* Pileup: essentially a radial profile of grades
- \* Sherpa:
  - o 2-D time/spectrum thread
  - o Multiple spectra with multiple models
  - o Convolution of a grating line profile
  - o Using an RSP file



## Why Topics

- \* CIAO and FTOOLS
- \* mkwarf & "Couldn't determine chip position"
- \* Sherpa statistics
- \* ACIS times
- \* pixel randomization
- \* pile-up
- \* ACIS Focal plane layout
- \* dmgti/time issues
- \* errors and SHERPA/XSPEC comparison
- \* destreak
- \* alternating exposure mode

## Analysis Guides

- \* Grating Analysis
- \* Making pretty pictures & plots
- \* Backgrounds